ABSTRACT

The present invention provides systems and methods that synchronize modifications between electronic data and one or more associated data representations. Synchronization comprises translating modification made to the data or a representation to the representations or the data and other representations. A mapping engine is employed to facilitate modification translation, wherein the mapping engine utilizes data-representation relationships, which declaratively described the relationship between data and respective representations. Such relationships can be stored in markup language (*e.g.*, xml) or as a memory string, for example. Modifications can be translated *via* a continuous technique, wherein translation occurs upon transaction commitment or *via* an explicit technique, wherein translation occurs upon an explicit request. The systems and methods further employ an adapter that facilitates communication between the mapping engine and the representation and a handler store that provides various handlers that facilitates communication between the mapping engine and data.